CHUKMASOV, S.F., doktor tekhn.nauk, prof.; LITVISHKOV, V.I., inzh.

Investigating the cutting-off mechanism of the A413 automatic cold upsetting machine. Vest.mashinostr. 44 no.3:40-42 Mr '64. (MIRA 17:4)

CHUKMASOV, S.F.; TSEKHNOVICH, L.I.; PUZYR'KOV, P.I.; ZAZIMKO, A.I.

Investigating forces acting in a baling press chamber. Kuz.-shtam. proizv. 7 no.8:23-26 Ag '65. (MIRA 18:9)

CHUKMASOV, S.F.; ZAZIMKO, A.I.; PUZYR'KOV, P.I.

Comparative studies of the pressing process of lightweight scrap metal in the "Zilig" and SPA-1000 fagotting presses. Stal' 25 no.8:767-769 Ag '65. (MIRA 18:8)

CHUKMASOVA, G. [Chukmasova, H.], prof.

Intellectual work. Nauka i zhyttia 13 n^ 7:50-51 Jl '63.
(MIRA 16:10)

CHUKMASOVA, G.T.

Significance of a mechanical factor in gastric secretion. Vop. fiziol. no.5:71-79 '53. (MLRA 8:1)

1. Dnepropetrovskiy meditsinskiy institut, kafedra normal'noy fiziologii.

(GASTRIC JUICE,
secretion, eff. of mechanical stimulation)

CHUKMASOVA, G. T. Galina Tikhonovna

CHUKMASOVA, G. T. -- "The Participation of the Membrane Nerves in the Control of the Motor and Secretory Functions of the Stomach." Min Public Health Ukrainian SSR, Kiev Order of Labor Red Banner Med Institute imeni Acad. A. A. Bogomolets, Dnepropetrovsk, 1955. (Dissertation for the Degree of Doctor of Medical Sciences)

SO: Knizhnaya Letopis' No 42, October 1956, Moscow

USSR/Human and Animal Physiology. Digestion. T

Abs Jour: Ref Zhur-Biol., No 8, 1958, 36533.

Author : Chukmasova, G.T.
Inst :
Title : The Effect of the Phrenic Nerves on Motility of the Empty Stomach of Dogs.

Orig Pub: V.sb. Nekotorye vopr. morf., fisiol. i patol. organov pishchevareniya. M., Medgiz, 1956, 77-78.

Abstract: Eighteen to twenty hours after feeding, periodic motion of the stomach (S) for a period of 1-3 hours were registered in 3 dogs with a Basov fistula of the stomach. After insertion of the right and left phrenic nerves (PN) into skin flaps in the neck, the author observed an increase of the period of contractions of the S and a decrease of rest periods, up to

Card : 1/2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31810

Author : Chukmasova, G.T.
Inst :
Title : Influence of Stimulation of the Phrenic Nerves on the Evacuatory Function of the Stomach in Dogs.

Orig Pub : Sb. nauch. rabot. Dnepropetr. med. in-ta, 1956, 1, 79-80.

Abstract : In dogs with fistula of the stomach, drawing out the left phrenic nerve (PN) into a cutaneous flap (which caused mechanical stimulation) impeded evacuation from the stomach of 100 ml of water up to 15-36 minutes instead of the usual 10-20 minutes. Such action caused electric stimulation of PN. Evacuation of 100 ml of 0.25% solution of soda occurred normally in both cases. Drawing out the right PN into a cutaneous flap in the same dog after 2 months, when the influence on the evacuation of water of the left PN had already ceased, speeded the evacuation

USSR/Human and Animal Physiology. Digestion. T

Abs Jour: Ref Zhur-Biol., No 8, 1958, 36528.

Author : Chukmasova, G.T.
Inst :
Title : The Effect of Stimulation of the Diaphragmatic Nerves on Gastric Juice Secretion in Dogs with Gastric Fistulas.

Orig Pub: V. sb. Nekotorye vopr. morf. fiziol. i patol. organov pishchevareniya. M., Medgiz, 1956, 89-96 (Some problems of morphology, physiology and pathology of digestive organs)

Abstract: Stimulation of the diaphragmatic nerves (DN) inserted in a skin flap, in 29 experiments on 5 dogs, was followed by increase of gastric secretion on fasting, in 9 - by decrease. Stimulation of DN did not show any initial action upon the gastric glands. The juice secretion

Card : 1/2

CHUKMASOVA, Mariya Alekseyevna; LAZAREV, Nikolay Mikhaylovich; DOMNICH, N.F., retsenzent; BULGAKOV, N.I., spetsredaktor; MASLOVA, Ye.F., redaktor; YAROV, E.M., tekhnicheskiy redaktor

[Beer production] Proizvodstvo piva. Moskva, Pishchepromizdat, 1956. 106 p. (MLRA 9:7)
(Brewing)

CHUKMASOVA, M.A.; LAZAREV, N.M.

[Beer production]Proizvodstvo piva. 2. perer. i dop. izd. Moskva, Pishchepromizdat, 1961. 134 p. (MIRA 15:9)
(Brewing)

DENSHCHIKOV, M.T., red.; BULGAKOV, N.I., red.; VESELOV, I.Ya., red. VOVK, Ye.A., red.; GLAVINSKIY, D.G., red.; KRUCHININ, V.F., red.; CHUKMASOVA, M.A., red.; BELIKOVA,L.S., red.; SOKOLOVA, I.A., tekhn. red.

[Manual on malt and beer production]Spravochnik po proizvodstvu soloda i piva. Pod obshchei red. M.T.Denshchikova. Moskva, Pishchepromizdat, 1962. 862. (MIRA 15:11)

(Brewing)

VESELOV, Ivan Yakovlevich, prof.; CHUKMASOVA, Mariya Alekseyevna, inzh.; OSTAPETS, N.A., retsenzent; ASLANOV, A.Ye., retsenzent; KOVALEVSKAYA, A.I., red.; KISINA, Ye.I., tekhn. red.

[Beer technology] Tekhnologiia piva. Izd.2., dop. i perer. Moskva, Pishchepromizdat, 1963. 450 p. (MIRA 17:1)

ZHEKHIN, V. P.; CHUKHOVSKAYA, M. A.

Oils and Fats

Relation between the content of phosphorus-containing substances in vegetable oils and their ash content. Masl. -zhir. prom. 18, No. 1, 1953.

SO: Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

CHUKOBAYEV, A.A.

Effect of height of mined seam and length of longwall on labor productivity in mining thick layers with blasting and loading of coal on conveyers. Trudy Inst. geol. KirFAN no.4:47-56 '53. (Coal mines and mining)

CHUKOBAYEV, A. A.

Mining Engineering

Dissertation: "Selection of a System of Mining for Thick Flat Seams of Coal of the Kizyl-Kiya Deposits." Cand Tech Sci, Moscow Mining Inst imeni I. V. Stalin, 8 Apr 54. (Vechernyaya Moskva Moscow, 29 Mar 54)

SO: SUM 213, 20 Sep 1954

CHUKOBAYEV, A.A.

Possibility of using movable shields in mining a thick slanting coal seam in the Kizyl-Kiya mine. Trudy Inst.geol.KirFan SSSR no.5:109-116 '54. (MLRA 9:12)

(Kizyl-Kiya--Coal mines and mining)

CHUKOBAYEV A.A.

DANCHEV, P.S.; CHUKOBAYEV, A.A.; IMARALIYEV, A.

Increasing the size of coal lumps by lowered coefficients of blast hole charges. Izv. AN Kir.SSR no.4:189-201 '57.
(MLRA 10:7)

(Coal mines and mining--Explosives)

Chukomina, M.M

USSR / Cultivated Plants. Medicinal and Essential-Oil Bearing L-8

Abs Jour : Ref Zhur - Biol., No 6, March 1957, No 22865

Author : Khodyrev, G.A., Chukomina, M.M.

Inst : Not Given

Title : An Initial Experiment on Essential-Oil Roses in the Central-Chernozem Strip.

Orig Pub : V. kn.: Kratkiy otchet o nauch.-issled. rabote za 1954 g. Vses. n.-i. in-ta maslich. i efiromaslich. kultur. Krasnodar, 1955, 107-108

Abstract : The first planting of red roses for essential oil was launched at the Alekseyev Experimental-Selection Station, All-Union Experimental-Scientific Institute of Oil and Essential Oil Cultivations (Belgorod district) in 1952. The first petal collection was made in 1954. With an adepted nutrient area of 3 m^2 (2 x 1.5 m) per plant, the crop consisted of 38 centners/hectare of petals. The essential oil content was 0.15-0.22%.

Card : 1/1

CHUKOV, G.

Power Economy through Profitable Utilization of Transformers. Elektroenergia (Electric Power), #11-12:29: Nov-Dec 54

CHUKOV, G.

Protecting Transformer and Generator Safety Insulations from Overvoltage. Elektroenergiya (Electric Power), #7-8:39:Jul-Aug 55

CHUKOV, G.

CHKOV, G. Architectural plan of the Sestrimo cascade water-power electric plant. p. 1.

Vol. 7, No. 8, Aug. 1956.
ELEKTROENERGIIA.
TECHNOLOGY
Sofiia, Bulgaria

So: East European Accession, Vol. 6, No. 3, March 1957

CHUKOV, P.N.
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~~30 351~~

Novoye v proizvodstvye styearina i olyeina. Pishch. prom - st' SSSR, vyp. 13, 1949, s. 74~~77~~

Copy

~~m. Tsyellyulozvaya promyshlyennost'. Bumazhnaya promyshlyennost'~~

SO: ~~LETOPIS'~~ No. ~~34~~ 41

New in the PREPARATION of STEARIN AND OLEIN.

CHUKOV, P.N.

IRODOV, M.V., kandidat tekhnicheskikh nauk, laureat Stalinskoy premii; NAUMENKO, P.V., inzhener, laureat Stalinskoy premii; CHUKOV, P.N., inzhener, laureat Stalinskoy premii.

Work of sections for nonreactive splitting of fats. Masl.-zhir.prom. 19 no.1:21-25 '54. (MLRA 7:2)

1. Glavraszhirmaslo (for Naumenko and Chukov). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov (for Irodov). (Oils and fats)

CHUKOV, P.N., inzhener

Contradictions in the article by Docent D.A.Rozhdestvenskii "Ways of increasing the output of glycerin in splitting fats by the catalytic reagent method." Masl.-zhir.prom. 20 no.3:32-35 '55. (MLRA 8:7)
(Oils and fats) (Glycerol)

CHUKOV, S.; ZAKHAROV, V.

Let's discuss problems of control. Voen. znan. 41 no.1:26 Ja '65.
(MIRA 18:2)

LEBEDEVA, Yuliya Aleksandrovna; MOSKALEV, Vladimir Dem'yanovich; CHUKOV, Sergey Vasil'yevich; CHUMAKOV, Viktor Ivanovich; GORCHAKOV, A.D., polkovnik, red.; KUZ'MIN, I.F., tekhn.red.

[How to defend oneself from a weapon of mass destruction] Kak zashchishchat'sia ot oruzhiia massovogo porazheniia. Moskva, Voen.izd-vo M-va oborony SSSR, 1962. 29 p. (MIRA 15:4)

1. Russia (1923- U.S.S.R.) Shtab grazhdanskoy oborony. (Civil defense)

CHUKOV,S.; ZAKHAROV,V.

Operations in a nuclear stricken area. Voen. znan. 40 no.7: 23-25 Jl '64 (MIRA 17:8)

CHUKOVA, N.S., dotsent (Kiyev, Laboratornyy per., d.20a, kv.28)

Topography of pathologically changed intrathoracic lymph nodes in a roentgen image. Klin.khir. no.6:29-35 Je '62.
(MIRA 16:5)

1. Kafedra rentgenologii (zav. - prof.A.Ye. Rubasheva) Kiyevskogo instituta usovershenstvovaniya vrachey.
(LYMPHATICS--DISEASES) (CHEST--RADIOGRAPHY)

CHUKOVA, N.S.; ZAGORODSKAYA, M.M.

X-ray diagnosis of tuberculosis of the large bronchi. Zhur. ush., nos. i gor. bol. 24 no.1:60-66 Ja-F '64. (MIRA 18:3)

1. Iz kafedry rentgenologii (zav.- prof. A.Ye. Rubasheva) Kiyevskogo Instituta usovershenstvovaniya vrachey.

29679
S/181/61/003/010/001/036
B102/B108

24.7800 (1138, 1145, 1153)

AUTHOR: Chukova, Yu. P.

TITLE: Electret effect of zinc sulfide

PERIODICAL: Fizika tverdogo tela, v. 3, no. 10, 1961, 2897-2902

TEXT: The author studied polarization effects of the heterogeneous luminophor system ZnS-Cu,Co+polystyrene in order to determine the polarization charge and its origin. The 1 mm thick specimens were pressed at 100°C under a load of 150 kg/cm^2. Photopolarization was investigated first. The author used the method of Kallman and Rosenberg (Ref. 4, see below). The results agree well with those of Ref. 4. The charge of the specimen as a function of polarization time attained saturation the faster the higher illumination intensity was. Saturation charge and corresponding potential were directly proportional. At a polarizing potential of 3 kv the charge was measured to be $15 \cdot 10^{-8}$ coul. The electret character of photopolarization was obvious. The charge was conserved even after the polarization process had ceased. After 150 days, the polarization charge was still 85 % of its

Card 1/3

Electret effect of zinc sulfide

initial value. Dark polarization of ZnS-Cu,Co, however, differed much from that of [Zn:Cd]S (Ref. 4). ZnS-Cu,Co showed always dark polarization independently of previous excitation by light. Like in the case of photo-polarization, also the dark charge was a heterocharge, and polarization was of electret type. The charge Q, as a function of the polarization time showed saturation after 50 to 100 min, depending on the polarizing potential. Q as a function of the holding time of the specimen in a short-circuited capacitor (spontaneous destruction of dark conductivity) has hyperbolic shape. Also the assumption of Kallman-Rosenberg that the effective field in a ZnS-Cu,Co specimen should vanish in the case of polarization saturation was verified. It was found, that saturation may not be explained by the vanishing of the effective field, and that dark and light charges exist independently of each other. Charge may vanish in at least three cases: (1) no polarization, (2) dark repolarization of the specimen, (3) addition of dark and light polarization. Finally, the electret and luminescence properties of ZnS-luminophors were compared. The interrelation between these properties which may be expected from model considerations, was found for the case of dark polarization: The longer the afterglow of the luminophor, the longer was the lifetime of the electret consisting of that

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B102/B108

Electret effect of zinc sulfide

luminophor. The studies showed, that the charge on the ZnS-Cu,Co specimens depends not only on the polarizing field (as Kallman and Rosenberg supposed) but also on the polarization conditions. The author thanks G. I. Skanavi (deceased), Doctor of Physics and Mathematics, A. N. Gubkin, Candidate of Physics and Mathematics, and M. V. Fok for guidance and discussions. G. Nadzhakov (Gos. Sof. univ., 33, 409, 1937) and P. S. Tartakovskiy et al. (ZhETF, 10, 139 and 1025, 1940) are mentioned. There are 4 figures and 7 references: 6 Soviet and 1 non-Soviet. The latter reads as follows:
Ref. 4: H. Kallman, B. Rosenberg. Phys. Rev., 97, 1958, 1955.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut Moskva (All-Union Scientific Research Institute of Light Engineering, Moscow)

SUBMITTED: December 21, 1960 (initially)
February 11, 1961 (after revision)

Card 3/3

L 18733-63 EPR/EWP(j)/EWT(l)/EPF(c)/EWT(m)/BDS AFFTC/ASD/ESD-3/LJP(c)/
ACCESSION NR: AT3002246 SSD Ps-4/Pc-4/Pr-4 RM/ S/2941/63/001/000/0339/0347
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77
74

AUTHOR: Chukova, Yu. P.

TITLE: Frequency dependence of electroluminescence condenser efficiency

SOURCE: Optika i spektroskopiya; sbornik statey. v. 1: Lyuminestsentsiya. Moscow. Izd-vo AN SSSR, 1963, 339-347

TOPIC TAGS: electroluminescence, condenser, circuit, absorption energy, luminescence, brightness

ABSTRACT: The average luminescence brightness and average capacity of two absorbable luminescent panels were measured by means of a photomultiplier and antimony-cesium photocathode. One of the panels was made on a metallic backing bonded with inorganic emulsion, the other on glass coated with a conductor and bonded with resin. In addition, an analysis was made by means of an equivalent circuit of the luminescence condenser. Curves were obtained showing the dependence of absorption energy and luminophor plus resin-resistance R_o on the frequency of applied voltage. Analytically this is predicted by: $R_o = \frac{R_o^*}{\sqrt{p}}$ (1)

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L 18733-63
ACCESSION NR: AT3002246

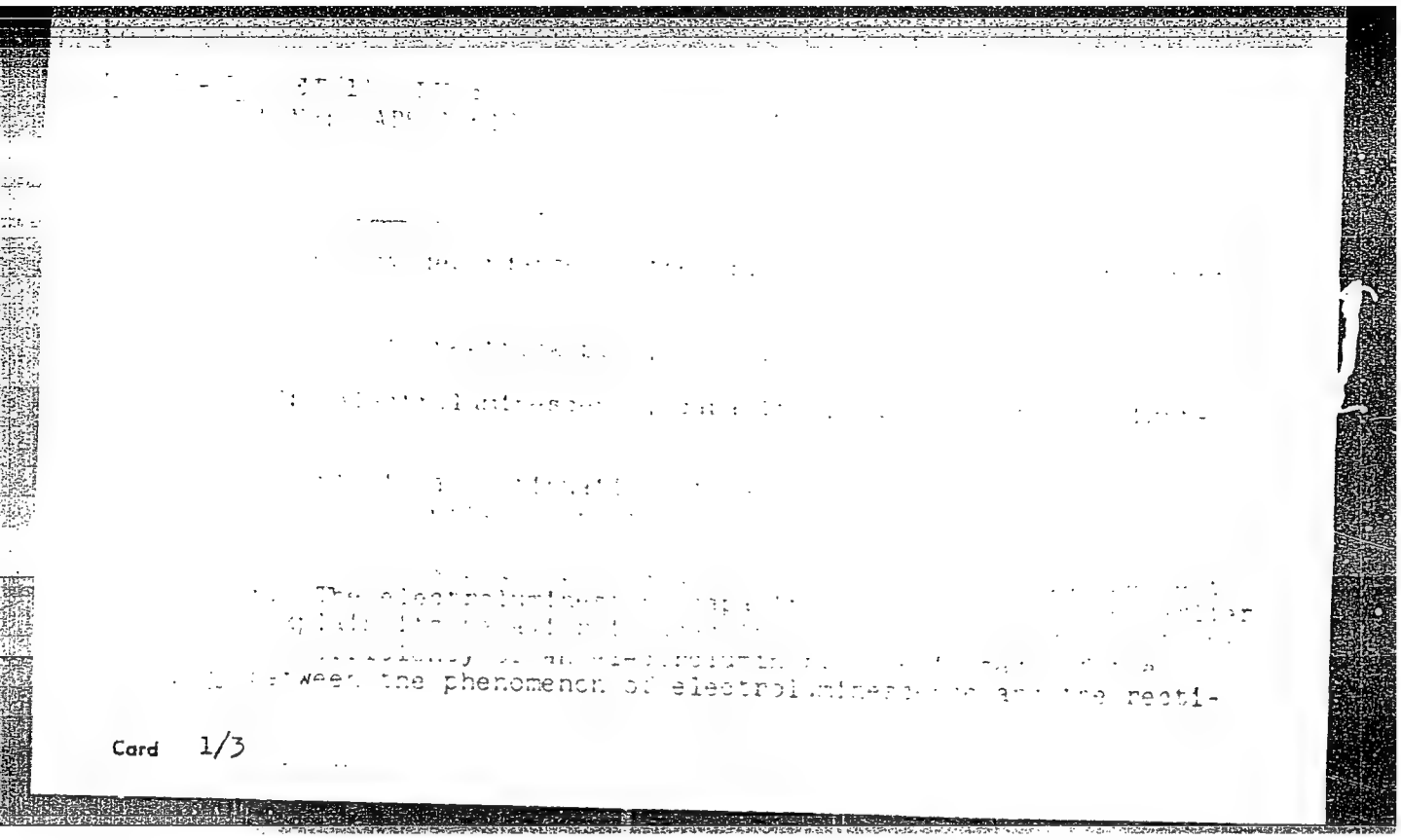
where ν is frequency; R_0 is a constant; p is sensitivity parameter, hyperbolic index. In addition, analytical results were obtained expressing the dependence of luminescence brightness and condenser efficiency on the applied frequency. These results were then compared to the experimental data. Good qualitative agreement was obtained between theoretical predictions and experimental measurements. Furthermore, the best panel characteristics were obtained with the highest hyperbola index p (1). Finally, two optimum frequencies were found for the electroluminescent condenser, a maximum frequency for maximum brightness, and a minimum frequency for relatively strong brightness coupled with a high efficiency. "The author acknowledges the help of M. V. Fok." Orig. art. has: 18 formulas and 8 figures.

ASSOCIATION: none

SUBMITTED: 28Oct61 DATE ACQ: 19May63 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 004

Card 2/2

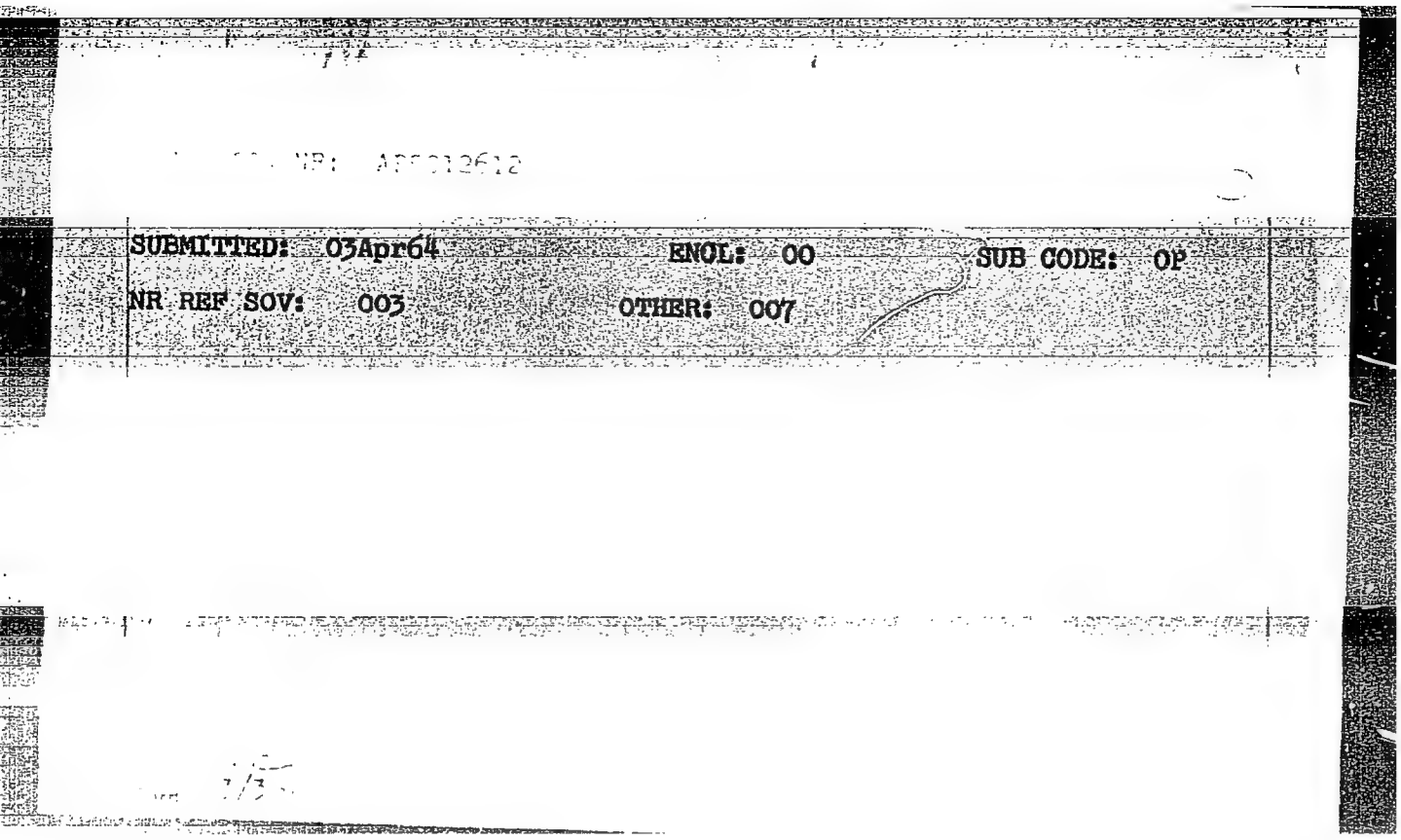


Card 1/3

L 4[illegible]-65

[illegible] the frequency and on the voltage, maki[illegible] efficiency of the electroluminor on

[illegible] explain this maximum by taking into account the efficiency of the electroluminor. The shift in the max[illegible] of the brightness on the frequency axis [illegible]



SUBMITTED: 03Apr64	ENCL: 00	SUB CODE: OP	
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[illegible] Y.P. [illegible] M.V. [illegible]

[illegible] structure of ZnS and CuxS (1 ≤ x ≤ 2) [illegible]

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The electroluminescence intensity was given by a similar formula but with a [illegible] of the constant B. No rectifica[illegible]

ACCESSION NR: AP5010816

2

... where f is the frequency ... are constants. This ... circuit also describes the ...

... formulas, 7 figures, and 1 table.

ASSOCIATION: Fizicheskiy institut im. P.N.Lebed... AN SSSR (... Institute ...

CHUKOVA, Yu.P.

Frequency dependence of the luminosity of electroluminescent condensers. Part 2. Opt. i spektr. 18 no.6:1035-1041 Je '65. (MIRA 18:12)

EWT(l)/EPA(s)-2/EWT(m)/EPF(c)/EAF ... Pz-6/Pi-4

...k, M.V.; Chukova, Yu.P.

...emperature dependence of the rectified current of an electroluminescent capacitor

...: Zhurnal tekhnicheskoy fiziki, v.35, no.6, 1965, 1139-1144

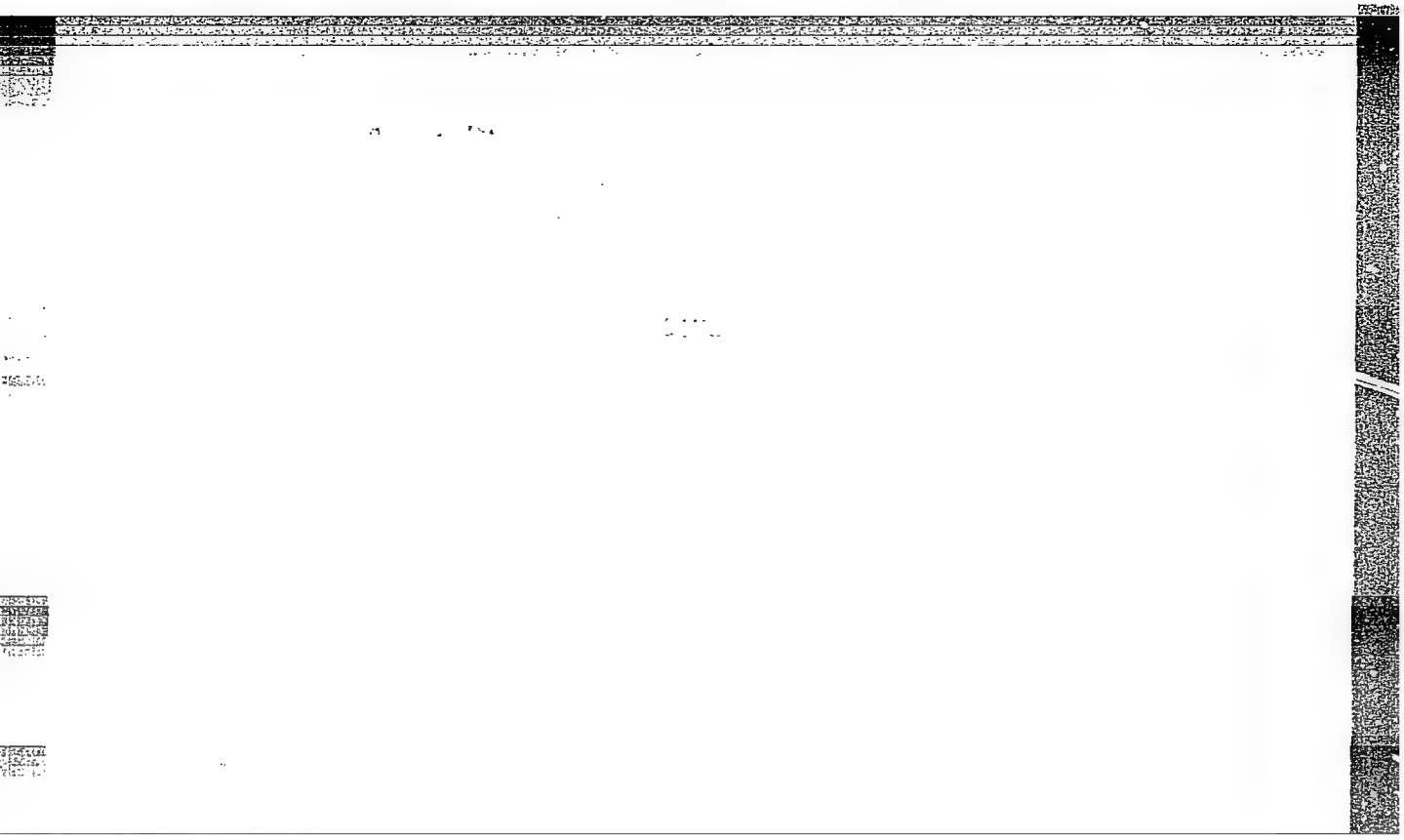
...: electroluminescence, tunnel effect, phonon electron interaction, rectification, zinc sulfide

... The rectified current in an electroluminescent capacitor

Card 1/3

[redacted]

[redacted] of electroluminescence, but it contradicts the estimates of



L 10670-66 EWT(1) IJP(c) AT

ACC NR: AP5028322 SOURCE CODE: UR/0057/65/035/011/2065/2068

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AUTHOR: Fok, M.V.; Chukova, Yu. P.

ORG: Physics Institute im. P.N.Lebedev, Moscow (Fizicheskiy institut im. P.N. Lebedeva)

TITLE: Frequency dependence of the current rectified by an electroluminescent capacitor

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 11, 1965, 2065-2068

TOPIC TAGS: electroluminescence, semiconductor rectifier, frequency characteristic, tunnel effect, electric current, capacitor

ABSTRACT: The authors have continued their earlier investigations of the current rectified by electroluminescent capacitors (ZhTF 35, 762, 1139, 1965). The rectified current I was previously found to be given in terms of the applied voltage U and the frequency f by the equation $I = C \exp(-\beta/U^{1/2})/(R_c^*/f^p)$, where C, β, and p are constants. The factor R_c^*/f^p has previously been identified with the resistance of the barriers in the heterogeneous layer. Measurements at a number of different audio frequencies and at potential voltages from 25 to 160 V have now revealed a frequency dependence of the parameters. The measurements can be represented, except at the highest voltages, by replacing β in the above equation with $\beta_0 + k \log f$, or by replacing p with $p_0 - k/U^{1/2}$, where β_0 k, and p_0 are constants. The significance

Card 1/2 UDC:535.376

of these results is discussed briefly. This discussion involves a relation (not given) between the field intensity within the barrier and the temperature T_0 below which the number of pairs produced by tunneling is not temperature dependent, derived by L.V.Keldysh (ZhETF, 34, 962, 1958), and previous measurements at 50 Hz of T_0 by the authors (loc.cit.supra). It is concluded that different fields are responsible for current rectification and for electroluminescence, and that the field responsible for current rectification is the smaller of the two and is the only one of them that is frequency dependent. This difference may be associated with the fact that a potential drop of 0.4 eV/sic/ is required for transmission of current, whereas about 3 eV are required for ionization of the luminescence centers. The authors thank O.A.Toropova for assisting with the measurements. Orig. art. has: 8 formulas and 3 figures. 44,55

SUB CODE: 09 SUBM DATE: 03Mar65/ ORIG. REF: 005 OTH REF: 000

Card 2/2

CHUKOVA, Yu.P.; LIGASOVA, V.D.

Frequency dependence of the brightness of electroluminescent condensers. Part 1. Opt. i spektr. 18 no.5:846-852 My '65.

(MIRA 18:10)

CHUKOVA, Z.V.

Vascular bacteriosis of kok-saghyz on peat soils of the White Russian S.S.R. Sbor.nauch.trud.Inst.biol.AN SSR no.2:36-45 '51. (MLRA 9:1)

(White Russia--Kok-saghyz--Diseases and pests)

BALABANOV, Kr.; BAZHDEKOV, B.; CHUKOVA-BEZHINOVA, M.

Melkersson-Rosenthal syndrome with description of a case. Suvrem. med., Sofia no.9/10:159-161 '59.

1. Iz Katedrata po kozhni i venerichni bolesti pri VMI - Sofiia. Zav.katedrata: prof. L. Popov. i Katedrata po nervni bolesti pri VMI - Sofiia. Zav.katedrata: dots. S. Bozhinov.
(FACIAL PARALYSIS compl.)
(TONGUE dis.)

GOSPODINOVA-MAKEDONSKA, D.; CHUKOVA-BOZHINOVA, T.

Treatment of multiple sclerosis with rimifon. Suvrem. med., Sofia 9 no.9: 61-70 1958.

1. Iz katedrata po nevrologiia pri VMI--Sofiia (Zav. katedrata: dots. S. Bozhinov).

(MULTIPLE SCLEROSIS, ther.
isoniazid (Bul))
(ISONIAZID, ther. use
multiple sclerosis (Bul))

GOSPODINOVA-MAKEDONSKA, D.; CHUKOVA-BOZHINOVA, T.

Remote neurological complications in treated tuberculous meningitis. Suvrem med., Sofia no.12:35-41 '60.

1. Iz Katedrata po nervni bolesti pri VMI, Sofia (Rukovoditel na katedrata prof. S.Bozhinov)
(TUBERCULOSIS MENINGEAL compl)
(NEUROLOGICAL MANIFESTATIONS)

GOSPODINOVA-MAKEDONSKA, D.; CHUKOVA-BOZHINOVA, T.

Atypical onset and complications in treated tuberculous meningitis. Nauch. tr. vissh. med. inst. Sofia 40 no.6:113-132 '61.

1. Predstavena ot prof. S. Bozhinov, rukovoditel na Katedrata po nevrologiia.

(TUBERCULOSIS MENINGEAL)

GEORGIEV, Iv.; CHUKOVA-BOZHINOVA, T.

On nervous system disorders caused by serum injections.
Nauch. tr. vissh. med. inst. Sofia 41 no.8:53-77 '62.

1. Predstavena ot prof. S. Bozhinov.
(PERIPHERAL NERVE DISEASES)
(BRACHIAL PLEXUS)
(INJECTIONS)
(TETANUS TOXOID)
(SEROTHERAPY)

BULGARIA

CHUKOVA-BOZHINOVA, T, and VANEVA, D, Chair of Neurology, Higher Medical Institute (Katedra po nevrologiya, VMI), Sofia, Director (rukovoditel), Prof S. Bozhinov

"A Case of Retinal Blastoma Metastasizing the Cerebrospinal Fluid of a Three-year-old Child"

Sofia, Nevrologiya, Psikhiatriya i Nevrokhirurgiya, Vol 5, No 3, 1966, pp 182-185.

Abstract [Authors' Russian and English summaries, modified]: The article describes a case of retinal blastoma metastasizing throught the cerebrospinal fluid in a three-year-old child, detected during its lifetime. The authors established clinically a meningeal syndrome and an inferior spastic parapa-resis which developed one month after enucleation of the right eye and 2½ years after the onset of the disease. Five references, including 2 Bulgarian, 1 Russian, and 2 Western. (Manuscript received, January 1966).

1/1

31542
S/627/60/002/000/027/027
D299/D304

3.2410 (2205, 2705, 1659)

AUTHORS: Mandzhavidze, Z. Sh., Roynishvili, N. N., Chukovani, G. Ye., Kozlov, A. A., Kotlyarevskiy, D. M., Tatalashvili, N. G., and Tsintsibadze, A. I.

TITLE: Study of penetrating showers at an altitude of 2000 m above sea level

SOURCE: International Conference on Cosmic Radiation. Moscow, 1959. Trudy. v. 2. Shirokiye atmosfernyye livni i kaskadnyye protsessy, 338-341

4

TEXT: The properties of unstable heavy particles were studied by means of a magnetic cloud chamber with lead absorbers. Among 8700 nuclear interactions, 139 cases of decay of neutral particles were observed, as well as 29 decay processes of charged strange particles. In addition, 11 decay processes, described by the authors in an earlier work, are also included in the study. As a result of the investigation of neutral particles, 45 V^0-shaped tracks were iden-

Study of penetrating ...

tified as decays of Λ^0-hyperons, and 38 - as θ^0-mesons. Fifty-six of the remaining V^0-shaped tracks could not be identified. Out of 40 $V^{\pm}$-particles, 1 was interpreted as τ-meson decay, 7 could be interpreted as K-meson decay and 2 - as Σ-hyperons. The other particles could not be interpreted by decay-dynamics only; for their interpretation considerations had to be employed which proceed from the considerable difference in the lifetime of hyperons and K-mesons respectively. In Solov'yev's work (Ref. 3: preprint O.I.Ya. I.) it is shown that for strong interactions involving strange particles, there are no obvious theoretical assumptions which would require conservation of parity. If such interactions are not invariant with respect to space inversion, one should expect the appearance of hyperon polarization in the plane of generation. These considerations were used as a basis for constructing the angular distribution protons of the decay of Λ^0-particles with momenta below 800 Mev./c. Further, the authors investigated the lifetime of

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Study of penetrating ...

Λ^0-particles by 2 methods. By the first method, they obtained for the mean lifetime the value

$$\tau_{\Lambda^0} = (2{,}83 \begin{smallmatrix} + 2{,}32 \\ - 0{,}99 \end{smallmatrix}) \cdot 10^{-10} \text{ sec}$$

The second method yielded

$$\tau_{\Lambda^0} = (3{,}02 \begin{smallmatrix} + 1{,}14 \\ - 0{,}72 \end{smallmatrix}) \cdot 10^{-10} \text{ sec}$$

Further, an attempt was made to determine the lifetime of Σ-hyperons. Earlier results in this respect are in disagreement. It was found that 13 of the decay processes of charged particles can be considered as $\Sigma^{\pm}$-hyperons. The lifetime of 9 of these particles is

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Study of penetrating ...

$$\tau_{\Sigma^{\pm}} = \leqslant (0,57 \begin{matrix} + 0,36 \\ - 0,16 \end{matrix}) \cdot 10^{-10} \text{ sec}$$

There are 1 table and 9 references: 3 Soviet-bloc and 6 non-Soviet-bloc. The references to the English-language publications read as follows: S. Hayakawa. Phys. Rev., 108, 1533, 1957; D. A. Glaser. Ann. International Conference on High Energy Physics at CERN, 1958; I. Snayder, W. Y. Chang and I. G. Gupta. Phys. Rev., 106, 149, 1957.

ASSOCIATION: Institut fiziki AN Gruz.SSR (Physics Institute AS Georgian SSR)

Card 4/4

3(9) SOV/50-59-6-12/17

AUTHORS: Rutkovskaya, V. A., Chukovenko, P. V.

TITLE: Installation for the Observation of Radiation on Reservoirs (Radiatsionnaya ustanovka dlya nablyudeniy na vodoyemakh)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 6, pp 45 - 49 (USSR)

ABSTRACT: The general scheme of the mentioned installation serving for actinometric observations of the water surface was worked out with the assistance of Yu. D. Yanishevskiy and by taking into account the recommendations contained in the papers (Refs 1,2, 3 and 4). The definite scheme was worked out by the authors advised by M. S. Averkiyev and A. A. Luchshev. The main task to be solved was that of carrying out complete observations of the albedo and the radiation balance. The installation is very accurately described here. Observations of the radiation balance of the Rybinskoye vodokhranilishche (Rybinsk Reservoir) were made by V. A. Rutkovskaya in summer 1958 on the expedition ship "Akademik S. I. Vavilov" of the Institut biologii vodokhranilishch AN SSSR (Institute of Reservoir Biology of the AS USSR). It is a 100 t ship; the actinometric equipment was astern. The total and reflected radiation as well as the radia-

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tion balance were measured. The instruments used were the thermoelectrical pyranometer, a portable albedometer and the balance meter (balansomer) devised by Yu. D.Yanishevskiy. The data obtained were compared with the records of Cape Rozhnovskiy. There are 5 figures and 4 Soviet references.

CHUKOVENKOV, N.I.

Automatic optimization of technological processes in the manufacture of synthetic rubber. Khim.prom. no.12:926-931 D '63. (MIRA 17:3)

64-1-13/19

AUTHOR: Chukovenkov, N. I.

TITLE: Automatic Scales for Weighing Liquid Ingredients
(Avtomaticheskiye vesy dlya razveski zhidkikh ingrediyentov)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 1, pp. 52 - 53 (USSR)

ABSTRACT: In order to simplify the working process in the tire industry the scales mentioned in the title were developed in the tire works Voronezh. The scales are in a box and are in principle ordinary scales the scalebeam of which is connected with a heat-insulated container which is fitted out with a heating coil. The liquid to be weighed (e. g. a softener) is filled into the container. The weighing itself and the in- and outlet of the softener resp. is controlled by an electrical-pneumatic plant. The latter is switched on or off by a mercury contact at the scale pointer, i. e. the supply is stopped when the desired weight is filled up and the softener is discharged into the rubber measuring container by means of compressed air. In order to signal the time of the begin and end of weighing, a red and a green

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Automatic Scales for Weighing Liquid Ingredients

lamp are connected to the electric device. The time of one weighing cycle is given with 3,6 minutes, with an accuracy of ± 0,5 %. There are 3 figures.

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1. Scales-Applications

Card 2/2

CHUKOVENKOV, N. I.

AUTHOR: Chukovenkov, N. I., Engineer SOV/119-58-9-1/18

TITLE: **Automatized** Production of Hydrocarbon Mixtures in Synthetic Rubber Manufacture (Avtomatizatsiya protsessa prigotovleniya uglevodorodnoy shikhty v proizvodstve sinteticheskogo kauchuka)

PERIODICAL: Priborostroyeniye, 1958, Nr 9, pp. 1-3 (USSR)

ABSTRACT: In manufacturing diphenyl styrene rubber, process conditions for preparing the hydrocarbon charge have to be strictly followed. In particular, the dosage of diphenyl and styrene must always be carried out uniformly with great accuracy. By a branch establishment of the experimental design office for automation (OKBA) a continuous, automatic procedure was developed and tested for preparing the hydrocarbon charge mentioned above. As a control device a densimeter is used. The proposed set-up provides for:

1. The control of consumption of diphenyl rectificate depending on the bad height of the prepared charge.
2. The control of the consumption of diphenyl distillate and of styrene rectificate at a given ratio of diphenyl rectificate consumed, under consideration of correcting loa

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prepared charge.
3. The control of pressure inside the diphenyl and prepared charge containers.

The consumption is measured by means of the ДПП-280 type differential float gauge. As a control member the 23-МС-410 8 device is used. The proposed set-up was tested in 1957 in the imeni Kirov works. There have been no differences between rated and actually obtained densities of produced charges, the accuracy being up to 0.001 g/cu.cm.
The proposed equipment not only requires fewer accessories and less operating space but also has 2 to 2 1/2 times less power consumption than equipment hitherto used. The developed set-up may also be used for a series of other processes in chemical engineering where a mixture is required to have the same composition at all times.
There are 5 figures.

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SOV/119-59-11-3/13

28 (1), 5 (1)

AUTHOR: Chukovenkov, N. I., Engineer

TITLE: The Automatization of the Switching Over of a Contact Furnace for the Production of Divinyl From Alcohol

PERIODICAL: Priborostroyeniye, 1959, Nr 11, pp 7-8 (USSR)

ABSTRACT: In the introduction to the present paper it is said that the main task to be performed by the operating personnel of the contact furnace shown in figure 1 consists in warranting the regeneration of the catalyst. This task is performed by opening and closing the corresponding valves and slides. A cyclogram of these operations is given in figure 2. A system of automatically switching over a contact furnace to regeneration and vice versa was developed by the Voronezhskiy filial Opytno-konstruktorskogo byuro avtomatiki (OKBA) Gosudarstvennogo Komiteta Soveta Ministrov SSSR po khimii (Voronezh Branch of the Experimental Design Office for Automatic Devices (OKBA) of the State Committee of the Council of Ministers of the USSR for Chemistry). The block diagram is shown in figure 2. From the programing unit (BPU) commands are transmitted to the control apparatus (BUA) which controls the mechanism of execution. The advantages offered by this scheme are discussed, after which

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AUTHOR: Bogomolov, M.A.; Chukovenkov, N.I.

TITLE: Automation of the production of synthetic rubber

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva im. D.I. Mendeleyeva, v. 6, no. 5, 1961, 524 - 532

TEXT: A system for automatic control of the continuous production of divinyl-styrene rubber developed by the Voronezhskiy filial OKBA (Voronezh Branch of the OKBA) is described, and flow sheets for the basic processes are presented. Divinyl-styrene rubber is manufactured by copolymerization of a divinyl-styrene mixture (hydrocarbon charge) in softened water containing an emulsifier and dissolved oleate salt. The excess of non-reacted hydrocarbons is separated from the latex after polymerization by steam distillation. The latex is coagulated with calcium chloride in presence of acetic acid, and the obtained film is washed and dried. The system of automatic control is subdivided into three steps: 1) Automation of the technological processes with local systems for regulation and control. 2) The system of automatic control of the final production. 3) The systems for centralized control of the total production. Divinyl

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Automation of the production of synthetic rubber

is manufactured by catalytic decomposition of alcohol in the following steps: preparation of the alcohol charge (alcohol, acetaldehyde, softened water); evaporation of the alcohol charge and catalytic decomposition of the alcohol (including regeneration of the catalyst). The economy of the whole rubber production process depends on efficiency of the catalytic decomposition. The preparation of the alcohol charge is, according to a presented flow sheet, completely automated. The control of the constant content of alcohol and acetaldehyde and the addition of softened water to the charge is carried out by means of an ИКЖ-2 (IKZh-2) analyzer and automatic density gage. It can be also seen that ДПП-280 (DPP-280) differential manometers with pneumatic drive were used and the РБС-1 (RBS-1) and 4РБ-280 (4RB-280) units for the regulation of the ratio of the components in the charge as well as a РУКЦ (RUKTs) regulator for the liquid level in the container. Stabilization in material balance of alcohol charge evaporation is effected by automatic regulation of heating of the evaporator, thus ensuring constant alcohol vapor pressure in the collector. Two СГГ (SGG) gas analyzers control the vapor content in this compartment. An automatic emergency system will stop alcohol evaporation and feeding by signalization. Automation of the catalytic alcohol decomposition to divinyl is effected in two stages, since the catalyst has to be regenerated after 16 - 17 h of service by passing

hot air. One system provides an automatic switch of the ovens to regeneration and back, the other controls the catalytic decomposition process. The first system works principally to a foregone scheduled regulation program which is controlled automatically by a control mechanism. The end of the regeneration process is determined by a thermotransformer which controls the temperature of the catalyst. For automatic regulation of the stop valves 87A (87A) and 87B (87B) electric drives were used. For this process a control system with sound and light signals is also provided to avoid damages and effect automatic blocking if uncontrolled processes occur. The flow sheet of the second system, i.e., automatic control of the contact process is shown in Figure 5. Constant optimum divinyl yield (y_p) is obtained by holding the density (γ) of contact gas condensate and divinyl concentration (c) in the gas at a constant value according to:

$$y_p = \frac{107 \cdot c}{0.8 + c + 100\,(\gamma - 0.845)^2 + \frac{0.02}{\gamma - 0.835}} \qquad (1)$$

(y_p in %, γ in g/cm^3 at 20°C and c in g/l). This is effected by changing temperature of the gas chamber of the vertical superheater (Fig. 5, 2), or by changing the contact time. One part of the contact gas is continuously drawn through an isothermic condenser (4) by means of the vapor ejector (5), effecting thus a

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Automation of the production of synthetic rubber

constant temperature of condensation. Then the gas is cleaned, passes the РАД (RAD) regulator of absolute pressure and the gas analyzer gage where divinyl concentration is measured. The condensate of the contact gas passes through an automatic density gage to the reservoir. Data from the secondary mechanism of the gas analyzer (14) and density gage (13) were registered by a counting mechanism and thus the conditions of equation (1) were secured. The counting data effect a corresponding regulation by the final regulator (11). The latter maintains maximum divinyl yield by influencing the regulation system of superheating and feed of alcohol vapor to the contact oven (3). Production of styrene occurs in 2 stages: catalytic dehydrogenation of ethylbenzene and rectification of the products by separating pure styrene. In dehydrogenation "oven oil I" is obtained containing 35% styrene, which is converted by the first step of rectification to "oven oil II" containing 75% styrene and 25% ethylbenzene and in the second step to 98 - 99% styrene. Maximum content of styrene in the vat of the rectification column and minimum content in top is secured by controlling styrene content in the distillate of the top by means of an automatic refractometer and corresponding regulation of temperature and liquid level in the vat. The control in the second stage, i.e., of the rectification of "oil II" is effected by installing an ИС-3 (IS-3) indicator of composition at the lower plates 5 - 7 of the column.

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Automation of the production of synthetic rubber

Regulation occurs by changing the temperature of the evaporator. The flow sheet for the continuous automatic preparation of the hydrocarbon is shown in Figure 8. Divinyl and styrene is fed continuously to the container (5) and the charge is passed to polymerization. Corresponding to the liquid level in (5) the consumption of divinyl rectificate is automatically regulated, and in relation to this amount also the styrene-distillate and styrene rectificate consumption is automatically regulated. The pressure in divinyl tanks and in container (5) is regulated in a similar way. Composition of the charge in (5) is controlled by a density gage. The latter regulates the styrene : divinyl ratio in the feed. After finishing automation of step 1 in divinyl-styrene rubber production, the Voronezh branch of OKBA cooperates with the Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute) to realize step 2 and 3, and supplied the machine "Tsekhovaya tsentrotekhnika" for collection of information in the plant and to pass them to the main control room. Also a central control machine "Tsentrotekhnika" is developed for collecting information of the other control machines and pass this information to another central system after preparation. Plans for a computer for estimating total technical and economic data of the whole factory were studied, being developed at present by the Moskovskiy inzhenerno-ekonomicheskiy institut (Moscow Institute of Engineering Economics), and

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Automation of the production of synthetic rubber

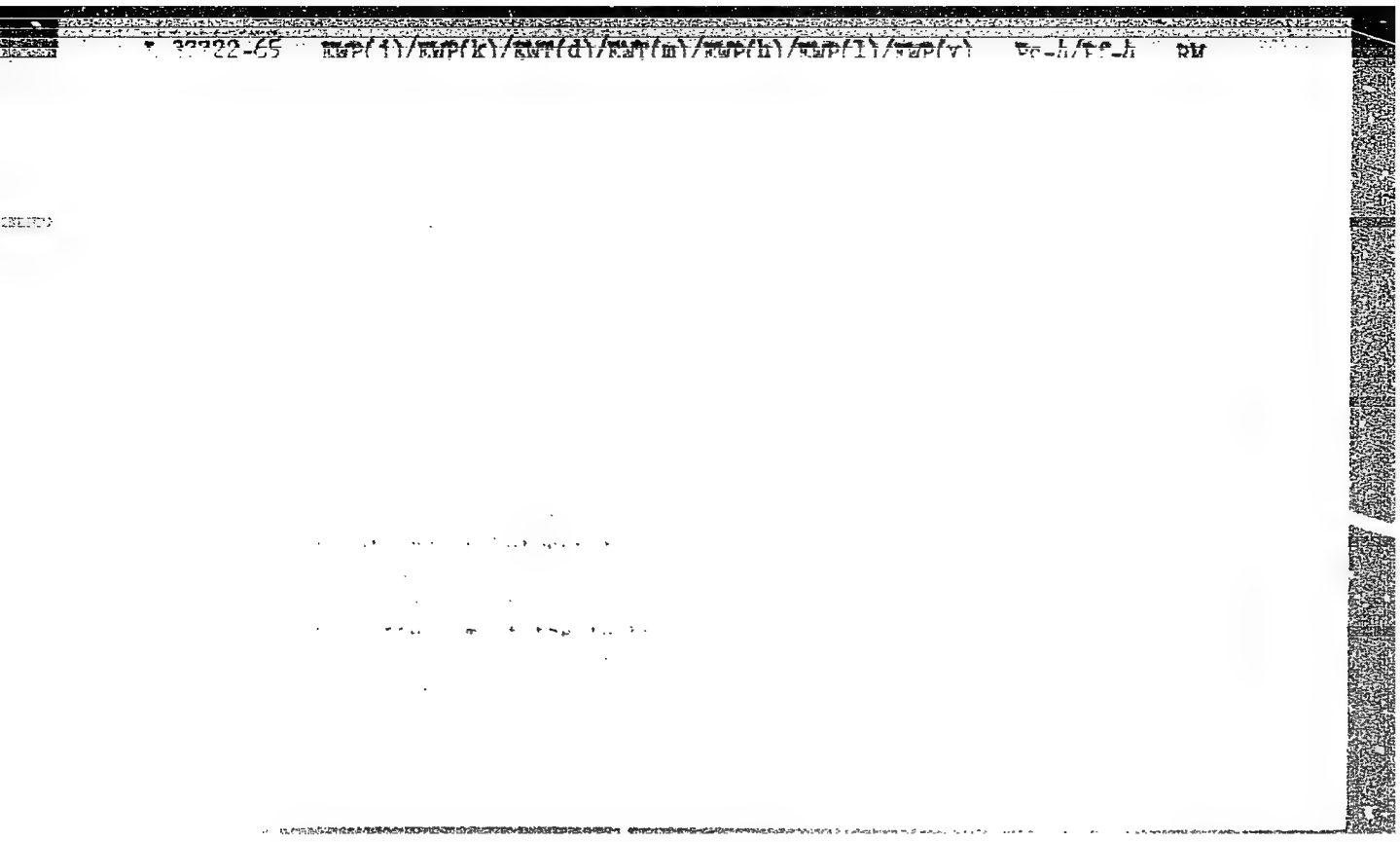
will be finished in correspondence to calculations in the Voronezh Plant and the OKBA branch in cooperation with the VNIISK on these technological processes. There are 8 figures and 5 Soviet-bloc references.

Figure 5: System of automatic process control of contact decomposition of alcohol to divinyl. (1) heat exchanger; (2) vertical superheater; (3) contact oven; (4) isothermic condenser; (5) vapor ejector; (6) differential manometer; (7) electronic potentiometer of ЭПД-32 (EPD-32) type; (8), (9) regulation units 4РБ-32А (4RB-32A); (10) secondary device type 1РЛ-29А (1RL-29A); (11) final regulator; (12) calculation and solution mechanism; (13) density gage; (14) gas analyzer; (15) pressure regulator; (16) filter; (17) regulator of absolute pressure RAD; (18) collector of the contact gas; (19) steam; (20) to the collector of condensate; (21) air; (22) alcohol vapor; (23) control panel.

Card 6/9

GORELIK, N.G.; Prinimali uchastiye: CHUKOVENKOV, N.I.; MYAGKOVA, I.V.; BELYKH, G.D.; KONONOVA, L.K.

Method of controlling the process of production of bivinyl from alcohol. Khim. prom. no.4:312-314 Ap '63.
(MIRA 16:8)



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CHUKOVICH, V.M.

The workers of leading telecommunication enterprises of White Russia are telling about their work practices. Vest. sviazi 23 no.2:28-29 F '63. (MIRA 16:2)

1. Predsedatel' Belorusskogo respublikanskogo komiteta professional'nogo soyuza rabotnikov svyazi, rabochikh avtotransporta i shosseynkh dorog.
(White Russia—Telecommunication—Employees)

CHUKOVICH, V.K.

Work practices of the leading workers should be followed on a wide scale. Vest. sviazi 24 no.1:25-26 Ja '64. (MIRA 17:3)

1. Predsedatel' Belorusskogo respublikanskogo komiteta professional'nogo soyuza rabotnikov svyazi, rabochikh avtotransporta i shosseynykh dorog.

CHUKOVICH, V.M.

Working conditions of communication workers should receive continuous attention. Vest. sviazi 25 no.3:22-23 Mr '65.
(MIRA 18:5)

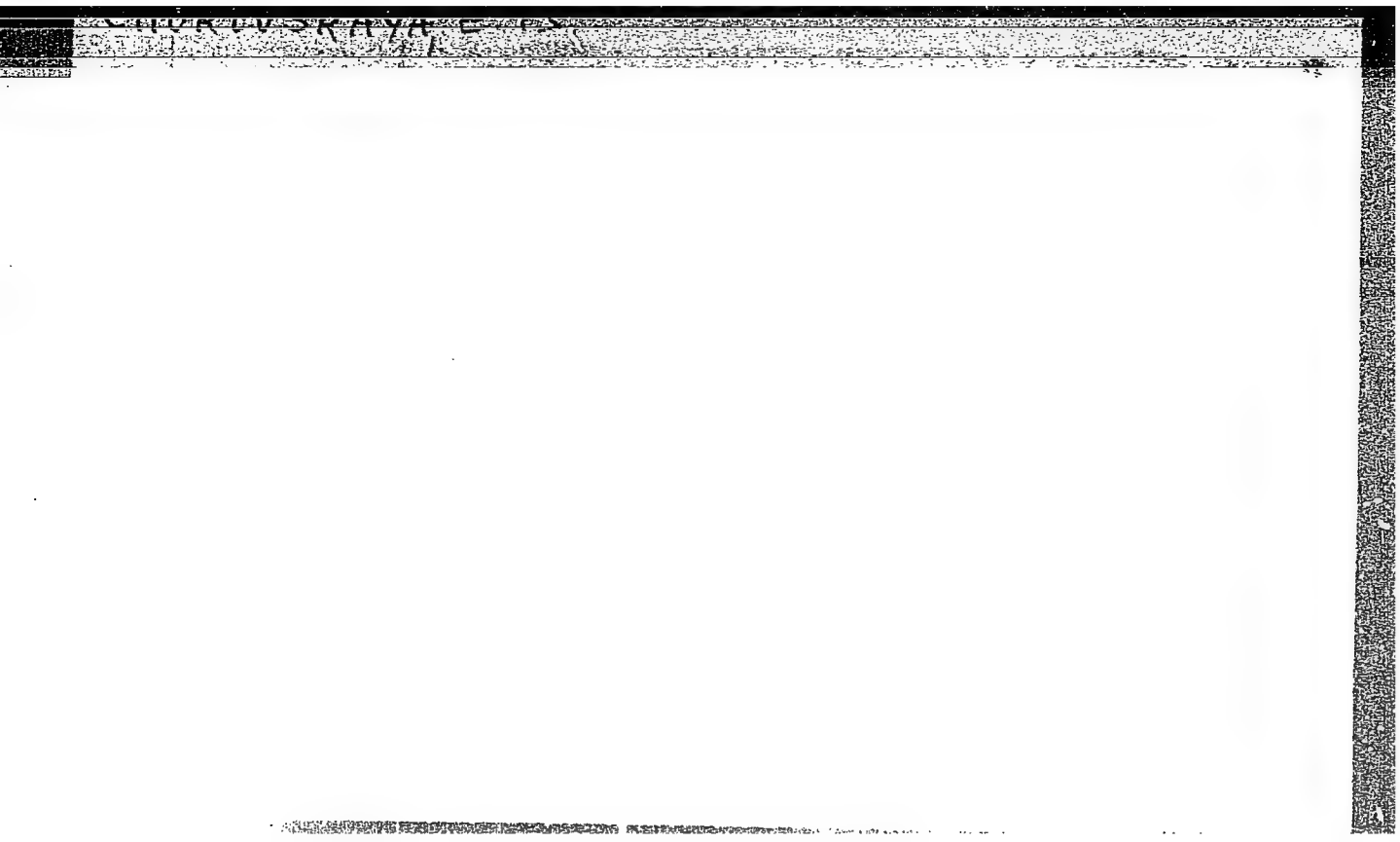
1. Predsedatel' Belorusskogo respublikanskogo komiteta professional'nogo soyuza rabotnikov svyazi, rabochikh avtomobil'nogo transporta i shosseynykh dorog.

Chukovskaya, Ye. Ts.

FREYDLINA, R.Kh.; CHUKOVSKAYA, Ye.TS.

Interreaction between mercuric acetate and xanthogenic acid esters. Izv.AN SSSR. Otd.khim.nauk no.2:187-193 F '57. (MLRA 10:4)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Mercury acetates) (Xanthic acids)



Thermal Telomerization of Trichlorsilane With Ethylene. PA - 2916

by the Grignard-reaction.
The yields of trichloralkylsilanes of different molecular weights show a certain conformity which is characteristic of the telomerization reaction (we noted that for the case methyldichlorsilane-ethylene): the highest yield was obtained for the comound for which it is true that n=2(25-26%). The yield of the other alkyltrichlorsilanes is reduced with rising n-value and forms 4% of the sum of all products for n = 5.
Conclusions: The reaction of the thermal telomerization of trichlorsilane with ethylene at a temperature of 270-285° and a pressure of 200 atm.overpressure was realized. From the obtained mixture of products alkyltrichlorsilane of a structure $Cl_3Si(CH_2CH_2)_nH$ was insulated and its trimethylderivatives were obtained by the Grignard-reaction.
(with 2 tables)

ASSOCIATION Academy of Science of the U.S.S.R.
PRESENTED BY
SUBMITTED 8.3.1957
AVAILABLE Library of Congress
Card 2/2

Chukovskaya, E. Ts.

AUTHORS Nesmeyanov, A.N., academician, Freydlina, R.Kh. and Chukovskaya, E.Ts. 20-4-28/60

TITLE Thermal Telomerization of Olefins with Silanes Containing a Si - H Bond.
(Termicheskaya telomerizatsiya olefinov s silanami, soderzhashchimi Si-H-svyaz'.)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 4, pp. 734-736 (USSR)

ABSTRACT As it was earlier proved by the authors, ethylene enters a telomerization reaction at 270-300°C under pressure and when an excess of ethylene is assured. A mixture of substances $XSiCl_2(CH_2CH_2)_nH$, develops, where X = Cl, CH_3.

Propylene under similar conditions also readily enters the reaction with methyldichlorosilane. It was interesting to find out whether silanes which contain no haloids also enter this reaction, as well as silanes whose Si is connected with the aromatic nucleus. The author found that ethylene readily enters the thermal telomerization reaction with phenyldichlorosilane. At 280°C and 90 at. superpressure the compounds

CARD 1/2 $C_6H_5SiCl_2(CH_2CH_2)_nH$ were obtained, where n = 1,2,3.

20-4-28/60

Thermal Telomerization of Olefins with Silanes containing a Si - H Bond.

The reaction of ethylene with triethylsilane was performed at 300°C and 200 at. excess pressure. It was possible to isolate tetraethylsilane and triethyl-n-butylsilane from the reaction products. Fractions were also obtained which contained higher triethylalkylsilanes. In the case of the reaction of triethoxysilane with ethylene at 300°C a pressure drop (from 100 to 35 at. excess pressure) and an ethylene absorption (22 g per 75 g of the charged triethoxysilane) were observed. It was not possible, however, to isolate the individual alkyltriethyxysilanes, since under the conditions of this reaction a disproportionation reaction apparently takes place. An experimental part with the usual data follows.
There is 1 Slavic reference.

ASSOCIATION: Institute for Elementary-Organic Compounds AN USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

SUBMITTED: July 5, 1957
AVAILABLE: Library of Congress.

CARD 2/2

CHUKOVSKAYA, Ye. Ts.

A. N. Nesmeyanov, R. Kh. Freydlina, A. A. Karapetyan and Ye. Ts. Chukovskaya, "The Thermal Telomerization of Silicon Hydrides with Ethylene."

Report presented at the Second All-Union Conference on the Chemistry and Practical Application of Silicon- Organic Compounds held in Leningrad from 25-27 September 1959.
Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

5 (3)
SOV/20-127-2-32/70

AUTHORS: Freydlina, R. Kh., Corresponding Member AS USSR, Chukovskaya, Ye. Ts., Tsao I

TITLE: Addition of Silanes to Unsaturated Compounds in the Presence of Iron Pentacarbonyl

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 352-355 (USSR)

ABSTRACT: The authors described together with A. N. Nesmeyanov.(Ref 1) that the olefines enter into the reaction of thermal telomerization with different silanes (see Scheme). The use of this reaction is restricted to the decomposition of the olefines containing functional substituents, whereas the α-olefines polymerize under the hard conditions of the telomerization. Therefore a catalyst should be found which reduces the reaction temperature. Several of the 33 investigated substances were inactive (the ones crossed out, Table 1). This shows that many compounds catalyze the reaction between the olefines and silanes. The reaction leads, however, to the formation of a telomer-homologous mixture only in the presence of $TiCl_4$, or only an addition takes place (Table 2). In all other cases only an addition took place (Table 2). Iron pentacarbonyl was the most interesting one of these catalysts.

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In the presence of the latter the mentioned reactions proceed at 100-140°. $SiCl_4$ and methoxy trichlorosilane are an exception, they are not added to ethylene. The reactions of ethylene with methyl dichlorosilane, triethoxysilane and triethylsilane, furthermore of propylene with methyl-dichlorosilane, and of vinyl ethyl ether with triethylsilane give in the presence of $Fe(CO)_5$ yields of 60-85 % of the theoretically possible yield.

The reactions of the triethyl- and of the triethoxysilanes with ethylene in the presence of radical initiators as well as in the heating up to 250-300° are known to proceed either not at all or to lead to a small yield of the addition product (Ref 5). The process of the reaction between triethylsilane and vinyl ethyl ether in the presence of $Fe(CO)_5$ was very interesting. It yielded as main product apparently β-ethoxy-vinyl-triethyl-silane the structure of which was confirmed by the infrared spectrum. Reference 6 reports on the formation of an unsaturated by-product $C_6H_5CH{=}CHSO_3Na$ in the case of the homolytic addition of $NaHSO_3$ to styrene. Apparently an analogous reaction proceeds in the case

described here. The radical character of the reactions proceeding in the presence of $Fe(CO)_5$ is also confirmed by the separation of by-products: the symmetrical hexaethyl- and hexaethoxy disilyl ethanes in the reaction of ethylene with triethyl- and triethoxy-silanes. This is possible almost only according to a homolytic scheme. The second possibility would be the reaction of ethylene with hexaethyl disilane (Refs 7, 8) (see Schemes). The authors proved, however, that hexaethyl disilane does not react with ethylene under the conditions of the mentioned reaction. Thus none of the two schemes holds in this case. A symmetrical product was observed in the homolytic telomerization of ethylene with H_2S (Ref 9). There are 2 tables and 10 references, 3 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: April 16, 1959

ChUKOVSKAYa, Ye, Ts., Cadd Chem Sci — (diss) "Investigation of the Telomerization of Olefins with Silane Hydrides and the Addition of Silane Hydrides to Unsaturated Compounds," Moscow, 1960, 14 pp, 160 copies (Institute of Organic Chemistry, AS USSR) (KL, 49/60, 126)

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AUTHORS: Freydlina, R. Kh., Chukovskaya, Ye. Ts., Karapetyan, Sh. A., Nesmeyanov, A. N.

TITLE: Thermal Telomerization of Olefins with Silanes

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 4, pp. 662 - 668

TEXT: In previous papers (Refs. 1 - 3) it was proved that olefins are thermally telomerized with compounds containing a Si-H bond. The reaction proceeds according to the scheme:

$$n\rangle C{=}C\langle + H\text{-}SiXYZ \longrightarrow H\left[-\overset{|}{\underset{|}{C}}-\overset{|}{\underset{|}{C}}-\right]_n SiXYZ \quad (X,Y,Z = Cl,\ CH_3,\ C_2H_5,\ C_6H_5).$$

The first experiments were performed in steel autoclaves. Since it was supposed that the metallic walls act as catalyst, the experiments were repeated in sealed glass tubes at 320 - 340°C and 50 atm. As may be seen from the data in Table 1, the results were the same as in the steel autoclaves. The thermal telomerization thus takes place without initiators

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or catalysts but is initiated by dissociation of the silane at the Si-H bond. The present paper reports on the influence of temperature and ethylene concentration upon the telomerization of C_2H_4 with methyl-dichloro silane (Table 2, Fig. 1). The same laws hold as for the telomerization of C_2H_4 with CCl_4 and $CHCl_3$ (Refs. 4 - 6). With increasing C_2H_4 content of the initial mixture the amount of low-boiling telomers decreases, that of the higher-boiling increases, in which connection the content of each component passes a maximum. The data in Table 3 show that the reaction rate increases with increasing temperature. At 100 atm and 320 - 350°C a conversion of 60 - 80% is attained within 5 - 10 min. With rising temperature the content of low telomers decreases, that of higher telomers increases (Fig. 2). The experimental part describes the following reaction: 1) C_2H_4 with CH_3SiCl_2H. Methyl-ethyl-dichloro silane and methyl-n-butyl-dichloro silane were obtained. 2) C_2H_4 with $(C_6H_5)_3SiH$. Triphenyl-ethyl-silane confirmed by infrared spectra and triphenyl-n-butyl-silane resulted, further a residue from $(C_6H_5)_3SiOSi(C_6H_5)_3$. 3) C_3H_6 with CH_3SiCl_2H in the presence of H_2PtCl_6 at room temperature.

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Thermal Telomerization of Olefins With Silanes

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B004/B066

Result: $CH_3SiCl_2n.C_3H_7$ which was identified by means of its Raman spectrum. 4) Thermal telomerization of C_3H_6 with CH_3SiCl_2H yielded $(CH_3)_3Si-CH_2-CH_2-CH_3$ (confirmed by Raman spectrum). These reactions did not obey the Markovnikov law. The infrared and Raman spectra were taken in the Institut organicheskoy khimii AN SSSR (Institute of Organic Chemistry of the AS USSR), for which the authors express their gratitude to L. A. Leytes. There are 2 figures, 3 tables, and 15 references: 13 Soviet, 1 British, 2 Japanese, and 2 American.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences of the USSR)

SUBMITTED: July 23, 1958

Card 3/3

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S/020/60/132/01/39/064
B011/B126

AUTHORS: Freydlina, R. Kh., Corresponding Member of the AS USSR, Tsao I., Chukovskaya, Ye. Ts.

TITLE: The Interaction of Silicon Hydrides With Acrylonitrile in the Presence of Iron Pentacarbonyl and Nickel Chloride

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 1, pp. 149-152

TEXT: The authors studied the reaction of methyl-dichlorosilane and triethylsilane with acrylonitrile without admixtures or in the presence of iron pentacarbonyl and nickel chloride at 120-150°. It can be seen from the results obtained (Table 1) that the reaction does not take place without admixtures (Experiment No.6). Neither is nickel chloride alone able to catalyze the reaction (Experiments No.7 and 10). Triethylsilane does not react in the autoclave with acrylonitrile in the presence of iron pentacarbonyl (Experiment No.13). Neither does methyl-dichlorosilane react with acrylonitrile in the presence of iron pentacarbonyl in a soldered-up glass ampoule (Experiment No.9). However, this reaction does take place in the autoclave, and forms an adduct whose yield increases with the rise in the acrylonitrile excess (Experiments No.1-5). The

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authors suppose that the reaction only takes place when, apart from iron carbonyl, there are also impurities of heavy metal salts present. These salts form through the reaction of chlorosilane on the autoclave walls. Actually both methyl-dichlorosilane and triethylsilane add to acrylonitrile in the presence of small quantities of iron pentacarbonyl and nickel chloride (at the same time). These reactions take place just as well in the autoclave (Experiments No. 8 and 12) as in soldered-up glass ampoules (Experiment No. 11). Thus, α-methyl-dichlorosilylpropionitrile (in the case of methyl-dichlorosilane) or α-triethylsilylpropionitrile (in the case of triethylsilane) is formed. The mixed catalyst produced by the authors obviously catalyzes the ion mechanism of the reaction. The authors also quote: V. F. Mironov and G. I. Nikishin. They thank L. A. Leytes, Institut organicheskoy khimii AN SSSR (Institute of Organic Chemistry of the AS USSR) for taking and interpreting the spectra. There are 1 table and 14 references, 6 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

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AUTHORS: Freydlina, R. Kh., Corresponding Member AS USSR, Chukovskaya, Ye. Ts., Tsao-I, Nesmeyanov, A. N., Academician

TITLE: The Formation of Unsaturated Organosilicon Compounds During the Interaction of Siliconhydrides and Olefines in the Presence of Iron Pentacarbonyl

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 374-377

TEXT: The reaction between silicon hydrides and olefines in the presence of iron pentacarbonyl frequently takes place in two directions (Schemes (1) and (2)). An excess of silane however, proved to be favorable for the reaction course according to scheme (1), and develops $R'R''R'''SiCH_2CH_2R$, while an olefine excess develops $R'R''R'''SiCH{=}CHR$ (2). The direction of the reaction is influenced by another important factor, namely the structure of silicon hydride. Thus methyl-dichlorosilane favors the development of saturated reaction products, while triethyl silane is better suited for the development of unsaturated compounds. Thus, tetraethylsilane and a small amount of symmetric hexaethyl disilyl ethane develop during the reaction between triethyl silane

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and ethylene (molar ratio of 3:1). With a ratio of 1:5, triethyl vinyl silane develops. The authors investigated the reactions of methyl dichlorosilane and ethylene, propylene and decene-1. In the case of ethylene (Ref. 1), methyl-ethyl-dichlorosilane develops. With the molar ratios between 1:4 and 1:7, no vinyl-methyl-dichlorosilane developed. Mixtures of saturated and unsaturated products developed with the two other olefines. In the case of decene, the composition of the mixture consisting of unsaturated products (namely $CH_3SiCl_2C_{10}H_{19}$) and saturated ($CH_3SiCl_2C_{10}H_{21}$)) is little changed if the ratio between silane and decene is kept between 1:2 and 5:1. The mixture of $CH_3SiCl_2C_3H_7$ (I) and $CH_3SiCl_2C_3H_5$ (II) developing from the reaction between methyl dichlorosilane and propylene (3:1), contains 75% of (I) and 25% of (II). If the ratio is 1:4, the mixture contains 24% of (I) and 76% of (II). Iron pentacarbonyl is the only catalyst of the above reaction, and acts without any cocatalysts. In reaction (2) decene acts as hydrogen acceptor and is thus hydrogenated into decane. The authors assume that a radical or cation of $CH_3SiCl_2CH_2\overset{\bullet}{C}HCH_2C_7H_{15}$ (A) develops during the reaction, with o representing a

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positive charge or an unpaired electron. Particle A is hydrogenated during the interaction with silane, while it is dehydrogenated during the reaction with olefine (see a somewhat simplified scheme). Intensity and structure of the above substances were proven by Raman and IR-spectra (taken by L. A. Leytes). Fig. 1 shows the spectrum of (V) taken by the apparatus type IKS-14. V. F. Mironov, G. I. Nikishin are mentioned. There are 1 figure and 14 references, 13 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

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AUTHORS: Freydlina, Nesmeyanov, A. N., Chukovskaya, Ye. Ts. and Karapetyan, Sh. A.

TITLE: Thermal telomerization of olefines with hydrosilanes

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedeniy; trudy konferentsii, no. 6, Doklady, diskussii resheniye. II Vses. Konfer. po khimii i prakt. prim. kremneorg. soyed., Len., 1958. Leningrad, Izd-vo AN SSSR. 1961, 72-82

TEXT: The thermal telomerization of olefines with hydrosilanes is apparently a chain reaction since it leads to the formation of a mixture of telomer-homologues in conditions which exclude the reaction of lower telomers with olefines to give higher telomers. It was shown that the thermal telomerization takes place without the presence of initiators or catalysts. Thus triphenyl silane telomerizes with ethylene in an autoclave without any difficulty giving $(C_6H_5)_3 SiC_2H_5$ and $(C_6H_5)_3 SiC_4H_9$ among the reaction products. This

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suggests that the telomerization is initiated by the dissociation of the Si-H bond and proceeds according to

$$Cl_3SiH \longrightarrow SiCl_3^{\bullet} + H^{\bullet}$$

$$SiCl_3^{\bullet} + CH_2{=}CH_2 \longrightarrow Cl_3SiCH_2CH_2^{\bullet}$$

$$Cl_3SiCH_2CH_2^{\bullet} \xrightarrow{Cl_3SiH} Cl_3SiCH_2CH_3 + SiCl_3^{\bullet}$$

$$Cl_3SiCH_2CH_2^{\bullet} \xrightarrow{CH_2=CH_2} Cl_3Si(CH_2CH_2)_n^{\bullet}$$

$$CL_3Si(CH_2CH_2)_n^{\bullet} + HSiCl_3 \longrightarrow Cl_3Si(CH_2CH_2)_nH + SiCl_3^{\bullet}$$

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Thermal telomerization ...

Thermal telomerization gives higher conversions than that initiated chemically by azo-bis-iso-butyronitrile or benzoyl peroxide. The structure of the addition product of methyl dichlorosilane to propylene was investigated by spectroscopic methods showing that no iso-propyl methyl silane was formed. The influence of temperature, pressure and ethylene concentration in the thermal telomerization of ethylene with methyl dichlorosilane was studied. With the increase of ethylene concentration the content of the higher telomers increases. The velocity of the reaction is strongly accelerated by the temperature rise. At 150 atm. and 320 - 350°C, 60 - 80% are converted in 5 - 10 minutes. The temperature rise effects also the composition increasing the content of the lower telomers in the reaction mixture. However, application of thermal telomerization is limited by the decomposition of unsaturated compounds in the reaction conditions. Therefore, a series of catalysts was tried in the reaction: $HSbCl_5$, $H_2SnCl_6.6H_2O$, $H_2PtCl_6.6H_2O$ and also $TiCl_4$ and $ZrCl_4$. In the presence of H_2PtCl_6 the reaction with ethylene and

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propylene takes place at room temperature giving only addition products. In the presence of $ZrCl_4$ the reaction between methyl dichlorosilane and ethylene proceeds at 175 - 180°C yielding 80 - 90% of methyl ethyl dichlorosilane. In the presence of $H_2SnCl_6.6H_2O$ or $TiCl_4$, ethylene and methyl dichlorosilane enter the telomerization reaction at 200 - 220°C giving telomers having 1,3 (CH_2CH_2) groups and which are identical with those obtained in the thermal telomerization. A. L. Klebanskiy (VNIISK, Leningrad), V. S. Chugunov, D. N. Andreyev and M. G. Voronkov (IKhS AN SSSR, Leningrad), S. N. Borisov (VNIISK, Leningrad), G. I. Nikishin (IOKh AN SSSR, Moscow), V. O. Reykhsfel'd (LKhTI, Leningrad), V. F. Mironiv, (IOKh AN SSSR, Moscow), S. A. Golubtsov (Moscow) and V. A. Ponomarenko (IOKh AN SSSR, Moscow) took part in the discussion. There are 2 figures, 4 tables and 15 references: 12 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: S. Nozakura and S. Konotsune, Bull. Chem. Soc. Japan., 29, 322, 326 (1957); S. Nozakura, Bull. Chem. Soc. Japan,